George G. Vega Yon, Ph.D.

Mobile	+1 (six two six) 381 8171
e-mail	g.vegayon@gmail.com
website	ggvy.cl
Code	github.com/gvegayon
Linkedin	www.linkedin.com/in/georgevegayon/
ORCID	orcid.org/0000-0002-3171-0844

Education

Ph.D. in Biostatistics (with a concentration in Statistical Computing)   2020
University of Southern California, USA.
Dissertation title:
  "Essays on Bioinformatics and Social Network Analysis:
  Statistical and Computational Methods for Complex Systems."

M.Sc. in Social Sciences (with a concentration in Economics)   2016
California Institute of Technology, USA.

Master in Economics and Public Policy   2011
Universidad Adolfo Ibáñez, Chile.

BS. in Business Administration (with a minor in Political Science)   2011
Universidad Adolfo Ibáñez, Chile.

Awards

Top paper award, International Communication Association	2022
Travel Grant, Society of Young Network Scientist	2019
Fellowship, California Institute of Technology	2014
Honorable Mention (Posters Session) Chilean Economics Society	2012
Scholarship, Universidad Adolfo Ibáñez	2006

Major Areas of Research Interest

Social Networks and Complex Systems
Statistical Computing
Scientific Software Development
Mechanistic Machine Learning
Statistical Methods Development

Academic and Professional Experience

Research Assistant Professor   Nov 2021 – Present
Division of Epidemiology, University of Utah

Data Scientist (contractor)   May 2024 – Present
Center for Forecasting and Outbreaks Analytics, CDC

Lead Data Scientist (Associate)   Nov 2023 – May 2024
Booz Allen Hamilton

Adjunct Assistant Professor   Jan 2023 – Present
Division of Population Health Sciences, University of Utah

Research Programmer   Feb 2018 – Nov 2021
Department of Preventive Medicine, University of Southern California

Programmer Analyst   Oct 2015 – Feb 2018
Department of Preventive Medicine, University of Southern California.

Graduate student researcher   Aug 2011 – Oct 2015
Division of Social Sciences, California Institute of Technology.

Analyst   Aug 2011 – Aug 2014
Research Division, Chilean Pension Supervisor (Pension System Watchdog).

Founding partner   Jan 2012 – Jan 2014
Nodos Chile Social Network Analysis Ltda.

Adjunct Professor of Statistical Computing   Jan 2011 – Jun 2012
School of Government, Universidad Adolfo Ibáñez.

Peer Reviewed Publications

[1]   Chad W. Milando, **George G. Vega Yon**, Kaitlyn Johnson, et al. "A Vision for Estimation of the Instantaneous Reproductive Number". In: *Epidemics* (Jan. 2026), p. 100885. URL: https://www.sciencedirect.com/science/article/pii/S1755436526000010.

[2]   Mohammad Mohammadi, Sima Najafzadehkhoei, **George G. Vega Yon**, et al. "A Novel Approach for Classifying Monoamine Neurotransmitters by Applying Machine Learning on UV Plasmonic-Engineered Auto Fluorescence Time Decay Series (AFTDS)". In: *Nanoscale Advances* (2025), 10.1039.D5NA00416K. URL: https://xlink.rsc.org/?DOI=D5NA00416K (visited on 11/18/2025).

[3] Sarah Piombo, **George G. Vega Yon**, and Thomas W. Valente. "The impact of social norms on diffusion dynamics: A simulation of e-cigarette use behavior". In: *Health Education & Behavior* (2025).

[4] Matthew Sargent, Luke J. Matthews, **George G. Vega Yon**, et al. "Assessing the Dynamics of PrEP Adoption in a National-Scale Physician Network". In: *Social Networks* 78 (July 2024), pp. 226–237. (Visited on 04/13/2024).

[5] Kyosuke Tanaka and **George G. Vega Yon**. "Imaginary Network Motifs: Structural Patterns of False Positives and Negatives in Social Networks". In: *Social Networks* 78 (July 2024), pp. 65–80. URL: https://doi.org/10.1080/01621459.2023.2252041.

[6] Derek Meyer and **George G Vega Yon**. "epiworldR: Fast Agent-Based Epi Models". In: *Journal of Open Source Software* 8.90 (Oct. 2023), p. 5781. URL: https://doi.org/10.21105/joss.05781.

[7] **George G. Vega Yon**. "Power and Multicollinearity in Small Networks: A Discussion of "Tale of Two Datasets: Representativeness and Generalisability of Inference for Samples of Networks" by Krivitsky, Coletti, and Hens". In: *Journal of the American Statistical Association* 118.544 (Oct. 2023), pp. 2228–2231. URL: https://doi.org/10.1080/01621459.2023.2252041.

[8] Samin Panahi, Eamonn Kennedy, Ali Roghani, et al. "Veteran Perspectives of Epilepsy Care: Impact of Veteran Satisfaction, Knowledge, and Proactivity". In: *Epilepsy & Behavior* 144 (July 2023), p. 109218.

[9] Marie Ouellet, Sadaf Hashimi, and **George G. Vega Yon**. "Officer Networks and Firearm Behaviors: Assessing the Social Transmission of Weapon-Use". In: *Journal of Quantitative Criminology* (June 2022). URL: https://doi.org/10.1007/s10940-022-09546-9.

[10] Marian-Gabriel Hâncean, Matjaž Perc, **George G. Vega Yon**, et al. "The formation of political discussion networks". In: *Royal Society Open Science* 9.1 (Jan. 2022), p. 211609. URL: https://royalsocietypublishing.org/doi/abs/10.1098/rsos.211609.

[11] **George G. Vega Yon**, Andrew Slaughter, and Kayla de la Haye. "Exponential random graph models for little networks". In: *Social Networks* 64 (2021). **(Top 10 most downloaded articles–since December 2020–from Social Networks as of June 6, 2021.)**, pp. 225–238. URL: https://doi.org/10.1016/j.socnet.2020.07.005.

[12] **George G. Vega Yon**. "Building, Importing, and Exporting GEXF Graph Files with rgexf". In: *Journal of Open Source Software* 6 (June 2021), p. 3456. URL: https://doi.org/10.21105/joss.03456.

[13] **George G.. Vega Yon**, Duncan C. Thomas, John Morrison, et al. "Bayesian parameter estimation for automatic annotation of gene functions using observational data and phylogenetic trees". In: *PLOS Computational Biology* 17.2 (Feb. 2021), pp. 1–35. URL: https://doi.org/10.1371/journal.pcbi.1007948.

[14] Thomas W. Valente and **George G. Vega Yon**. "Diffusion/Contagion Processes on Social Networks". In: *Health Education & Behavior* 47.2 (2020), pp. 235–248. URL: http://journals.sagepub.com/doi/10.1177/1090198120901497.

[15] Kayla de la Haye, Heesung Shin, **George G. Vega Yon, et al.** "Smoking Diffusion through Networks of Diverse, Urban American Adolescents over the High School Period". In: *Journal of Health and Social Behavior* 60.3 (2019), pp. 362–376. URL: https://doi.org/10.1177/0022146519870521.

[16] Thomas W. Valente, Heather Wipfli, and **George G. Vega Yon**. "Network influences on policy implementation: Evidence from a global health treaty". In: *Social Science and Medicine* 222 (2019), 188–197. URL: http://www.sciencedirect.com/science/article/pii/S0277953619300085.

[17]   **George G. Vega Yon** and Brian Quistorff. "parallel: A command for parallel computing". In: *The Stata Journal: Promoting communications on statistics and Stata* 19.3 (Sept. 2019), pp. 667–684. URL: `http://journals.sagepub.com/doi/10.1177/1536867X19874242`.

[18]   **George G. Vega Yon** and Paul Marjoram. "fmcmc: A friendly MCMC framework". In: *Journal of Open Source Software* 4.39 (July 2019), p. 1427. URL: `http://joss.theoj.org/papers/10.21105/joss.01427`.

[19]   **George G. Vega Yon** and Paul Marjoram. "slurmR: A lightweight wrapper for HPC with Slurm". In: *Journal of Open Source Software* 4.39 (July 2019), p. 1493. URL: `https://joss.theoj.org/papers/10.21105/joss.01493`.

[20]   Brooke M. Bell, Donna Spruijt-Metz, **George G. Vega Yon**, et al. "Sensing eating mimicry among family members". In: *Translational Behavioral Medicine* 9.3 (May 2019), pp. 422–430. URL: `https://doi.org/10.1093/tbm/ibz051`.

[21]   Jorge Fábrega Lacoa and **George G. Vega Yon**. "El impacto del rating televisivo sobre la actividad en Twitter: evidencia para Chile sobre la base del evento TELETÓN 2012". In: *Cuadernos.info* 33 (Dec. 2013), pp. 43–52. URL: `http://cuadernos.info/index.php/CDI/article/view/533`.

Work in Progress and Technical Reports

[1]   Sima Najafzadehkhoei, **George Vega Vega Yon**, Bernardo Modenesi, et al. *Machine Generalize Learning in Agent-Based Models: Going Beyond Surrogate Models for Calibration in ABMs*. Sept. 6, 2025. arXiv: `2509.07013 [cs]`. URL: `http://arxiv.org/abs/2509.07013` (visited on 11/18/2025). Pre-published.

[2]   Jay Love, Cormac R. LaPrete, Theresa R. Sheets, et al. *Characterizing Spatiotemporal Variation in Transmission Heterogeneity during the 2022 Mpox Outbreak in the USA*. Preprint. Epidemiology, May 2023.

[3]   **George G. Vega Yon**, Mary Jo Pugh, and Thomas W. Valente. *Discrete Exponential-Family Models for Multivariate Binary Outcomes*. Nov. 2022. arXiv: `2211.00627 [cs, stat]`.

[4]   **George G.. Vega Yon**, Duncan C. Thomas, John Morrison, et al. "Modeling Gene Functional Evolution using Sufficient Statistics". 2021.

[5]   **George G. Vega Yon**. *Capital Necesario Unitario (CNU): Cálculo e Introducción Del Módulo de Stata CNU*. Working Papers 57. Superintendencia de Pensiones, Aug. 2014. URL: `https://ideas.repec.org/p/sdp/sdpwps/57.html`.

[6]   Ximena Quintanilla, Isabel Poblete, **George G. Vega Yon**, et al. *Estudio Actuarial de los Fondos del Seguro de Cesantía*. Tech. rep. 2013.

[7]   Andrea Repetto and **George G. Vega Yon**. *El Impacto de un Alza en la Cotización Previsional: Pensiones, Salarios y Empleo*. Tech. rep. 2013.

Books

"Applied Network Science with R" (on development) `https://book.ggv.cl/`
"Applied HPC with R" (on development) `https://book-hpc.ggv.cl/`

Software Packages

[1] Damon Bayer, Dylan H Morris, **George G. Vega Yon**, Trevor Martin, Subekshya Bidari. *PyRenew: A Package for Bayesian Renewal Modeling with JAX and NumPyro* (2024). Python package version 0.1.0. URL: `https://github.com/CDCgov/PyRenew`.

[2] Kaitlyn Johnson, Dylan Morris, Sam Abbott, Christian Bernal Zelaya, **George G. Vega Yon**, Damon Bayer, Andrew Magee, Scott Olesen. *wwinference: Jointly infers infection dynamics from wastewater data and epidemiological indicators* (2024). R package version 0.1.1.99, https://cdcgov.github.io/ww-inference-model/. URL: `https://github.com/cdcgov/ww-inference-model/`.

[3] **George G. Vega Yon**. *defm: Estimation and simulation of Multi-binary response models* (2023). R package version 0.1.0. URL: `htps://cran.r-project.org/package=defm`.
downloads 1446

[4] Derek Meyer, **George G. Vega Yon**. *epiworldR: Fast Agent-Based Epi Models* (2023). R package version 0.0-2. URL: `https://cran.r-project.org/package=epiworldR`.
downloads 9740

[5] Derek Meyer, **George G. Vega Yon**. *epiworldRShiny: Shiny interface for epiworldR* (2023). R package version 0.1-0. URL: `https://cran.r-project.org/package=epiworldRShiny`.

[6] **George G. Vega Yon**. *aphylo: Statistical Inference of Annotated Phylogenetic Trees* (2022). R package version 0.2-1. URL: `https://cran.r-project.org/package=aphylo`.
downloads 13K

[7] **George G. Vega Yon**. *epiworld: A Flexible and General Agent Based Model Engine* (2022). C++ library version 0.0-1. URL: `https://github.com/UofUEpiBio/epiworld`.

[8] **George G. Vega Yon**. *netplot: Beautiful graph drawing* (2021). R package version 0.1-1. URL: `https://cran.r-project.org/package=netplot`.
downloads 18K

[9] **George G. Vega Yon**. *rgexf: Build, Import and Export GEXF Graph Files* (2020). R package version 0.16.0. URL: `https://CRAN.R-project.org/package=rgexf`.
downloads 643K

[10] **George G. Vega Yon**, Thomas Valente. *netdiffuseR: Analysis of Diffusion and Contagion Processes on Networks* (2020). R package version 1.22.0. URL: `https://github.com/USCCANA/netdiffuseR`.
downloads 53K

[11] **George G. Vega Yon**, Kayla de la Haye. *ergmito: Exponential Random Graph Models for Small Networks* (2020). R package version 0.3-0. URL: `https://cran.r-project.org/package=ergmito`.
downloads 26K

[12] **George G. Vega Yon**. *slurmR: A Lightweight Wrapper for 'Slurm'* (2020). R package version 0.4-1. URL: `https://CRAN.R-project.org/package=slurmR`.
downloads 35K

[13] **George G. Vega Yon**. *fmcmc: A friendly MCMC framework* (2020). R package version 0.3-0. URL: `https://CRAN.R-project.org/package=fmcmc`.
`downloads` `31K`

[14] **George G. Vega Yon**. *barry: your to-go motif accountant* (2020). C++ library version 0.0-1. URL: `https://github.com/USCbiostats/barry`.

[15] **George G. Vega Yon**. *pruner: Implementing the Felsenstein's Tree Pruning algorithm* (2020). C++ library version 0.0-1. URL: `https://github.com/USCbiostats/pruner`.

[16] **George G. Vega Yon**, Brian Quistorff. *parallel: Stata Module for Parallel Computing* (2019). Stata Module version 1.20.0. URL: `https://github.com/gvegayon/parallel`.

[17] **George G. Vega Yon**. *googlePublicData: Working with Google's 'Public Data Explorer' DSPL Metadata Files* (2017). R package version 0.16.1. URL: `https://CRAN.R-project.org/package=googlePublicData`.
`downloads` `57K`

[18] **George G. Vega Yon**, Enyelbert Muñoz. *ABCoptim: Implementation of Artificial Bee Colony (ABC) Optimization* (2017). R package version 0.15.0. URL: `https://CRAN.R-project.org/package=ABCoptim`.
`downloads` `87K`

[19] **George G. Vega Yon**. *twitterreport: Out-of-the-box analysis and reporting tools for twitter* (2016). R package version 0.16. URL: `https://doi.org/10.5281/zenodo.44528`.

Conference talks/workshops

[1] Sima Najafzadehkhoei and **George G. Vega Yon**. "Automatic Calibration of Agent-Based Models using Deep Neural Networks". In: DELPHI Symposium 2024. (conference poster, slides). Nov. 2024.

[2] Aníbal Olivera, **George G. Vega Yon**, Chong Zhang, et al. "How does network structure in Agent-Based Models affect epidemiological parameters? A large". In: CSS 2024 Santa Fe. (conference poster, slides). Oct. 2024.

[3] **George G. Vega Yon**, Derek Meyer, Milo Banks, et al. "epiworld: A fast multi-language library for epi ABMs". In: Conference on Complex Systems, 2024. (conference talk, slides). Sept. 2024.

[4] **George G. Vega Yon**, Matthew Samore, Karim Khader, et al. "How Network Structure Affects Epidemiological Indicators in ABMs - A Large Simulation Study Featuring Artificial and Real-world Networks". In: INSNA Sunbelt 2023. (conference talk, slides). July 2023.

[5] Porter Bischoff and **George G. Vega Yon**. "Visualization tools for network science: Building beautiful graphs with netplot". In: INSNA Sunbelt 2023. (conference poster, slides). June 2023.

[6] **George G. Vega Yon** and Derek Meyer. "Simulating Complex Agent-Based Model with epiworldR: A fast and flexible ABM framework". In: INSNA Sunbelt 2023. (conference workshop, slides). June 2023.

[7] Matthew Samore, **George G. Vega Yon**, Karim Khader, et al. "The importance of interaction networks in long-term care facilities to reduce the equilibrium prevalence of infectious pathogens". In: Sunbelt 2022. (conference talk). July 2022.

[8]　Kyosuke Tanaka and **George G. Vega Yon**. "Imaginary Network Motifs: Structural Patterns of False Positives and Negatives in Social Networks". In: 72th Annual Conference of the International Communication Association. (conference talk). May 2022.

[9]　Marie Ouellet, Sadaf Hashimi, and **George G. Vega Yon**. "Network Influence in Officer Firearm Use". In: NETWORKS 2021 - A Joint Sunbelt and NetSci Conference. (conference talk). July 2021.

[10]　**George Vega Yon**. "Triads, Dyads, and Gene Functions - When Social Network Analysis Meets Phylogenetics". In: NETWORKS 2021 - A Joint Sunbelt and NetSci Conference. (conference talk). July 2021.

[11]　**George G. Vega Yon**, Aileen Dinkjian, Sarah Hamm-Alvarez, et al. "ERGMito Statistical Models for Small Team Social Networks". In: SciTS 2020. (conference talk, slides/video). June 2020.

[12]　**George G. Vega Yon**, Andrew Slaughter, and Kayla de la Haye. "Exact Statistics and Semi-Parametric Tests for Small Network Data". In: IC2S2, 2019. (conference talk, slides). July 2019.

[13]　**George G. Vega Yon**, Andrew Slaughter, and Kayla de la Haye. "Exact Statistics and Semi-Parametric Tests for Small Network Data". In: Sunbelt 2019. (conference talk, slides). June 2019.

[14]　**George G. Vega Yon** and Kayla de la Haye. "Small network statistics for the network science of teams". In: NetSciX 2019, SCL. (conference talk, slides). Jan. 2019.

[15]　**George Vega Yon**. "Computacion de Alto Rendimiento con R". In: satRday Santiago 2018. (conference workshop, slides). Dec. 2018.

[16]　**George G. Vega Yon** and Kayla de la Haye. "Big Problems for Small Networks: Small Network Statistics". In: NASN 2018, DC. (conference talk, slides). Nov. 2018.

[17]　**George G. Vega Yon**, Kayla de la Haye, Hee-sung Shin, et al. "Diffusion of Smoking Initiation Among Diverse, Urban American Adolescents Over The High School Period". In: NASN 2017. (conference talk, slides). July 2017.

[18]　**George G. Vega Yon** and Brian Quistorff. "Uncomplicated Parallel Computing with Stata". In: Stata Conference 2017. (conference talk, slides). July 2017.

[19]　**George G. Vega Yon** and Thomas W. Valente. "Understanding Diffusion with netdiffuseR". In: NASN 2017. (conference workshop, slides). July 2017.

[20]　**George G. Vega Yon** and Thomas W. Valente. "Network Diffusion of Innovations in R: Introducing netdiffuseR". In: IC2S2, 2016. (conference poster, slides). June 2016.

[21]　**George G. Vega Yon** and Thomas W. Valente. "Network Diffusion of Innovations in R: Introducing netdiffuseR". In: useR! 2016. (conference talk, slides/video). June 2016.

[22]　**George G. Vega Yon** and Thomas W. Valente. "Understanding Diffusion with netdiffuseR". In: Sunbelt Conference, 2016. (conference workshop, slides/video). Mar. 2016.

[23]　**George Vega Yon**. "Just tired of endless loops! or parallel: Stata module for parallel computing". In: Stata Conference, 2013. (conference talk, slides). July 2013.

Invited Speaker

[1]　""A Brief Introduction to High-Performance Computing: With Applications in R"". In: Methods talks. (invited talk, slides). Sept. 2024.

[2] ""Machine Learning Sandwich for Agent-Based Models: Automatic calibration and post-processing adjustment for ABMs"". In: Methods talks. (invited talk, slides). Sept. 2024.

[3] ""Exponential Random Graph Models: An Introduction"". In: Summer Institute in Computational Social Science. (invited talk, slides). July 2024.

[4] ""La Muerte del Aprendizaje de Máquina' o 'cómo la teoría puede mejorar a las máquinas"". In: Escuela de Verano de Sistemas Complejos. (invited talk, slides). Jan. 2024.

[5] "What is a Scientist?" In: Career Day 2023. (invited talk, slides). Nov. 2023.

[6] "Power and multicollinearity in small networks: A discussion of "Tale of Two Datasets: Representativeness and Generalisability of Inference for Samples of Networks" by Krivitsky, Coletti & Hens". In: Joint Statistical Meetings, 2023. (invited talk, slides). Aug. 2023.

[7] "Network visualization (in R) with "netplot" and motif counting (in C++) with "barry"". In: SCI Seminar. (invited talk, slides). Apr. 2023.

[8] "Prediction of Gene Functions by Leveraging Biological Insights with Mechanistic Machine Learning". In: University of Utah Data Science Seminar. (invited talk, slides/video). Jan. 2023.

[9] "Triadas, lazos y funciones genéticas: cuando las redes sociales y la filogenética se encuentran". In: Seminario de Data Science. (invited talk, slides/video). May 2021.

[10] "Triads, Dyads, and Gene Functions - When Social Network Analysis Meets Phylogenetics". In: Computational Cancer Genomics Working Group Evening Lecture. (invited talk, slides/video). Mar. 2021.

[11] ""Predicción de funciones genéticas utilizando evidencia experimental y árboles filogenéticos: Un modelo evolutivo" o "Ciencia de datos en la práctica"". In: PUC Mathematical and Computational Engineering Seminars. (invited talk, slides). Apr. 2020.

[12] "A Brief Introduction to Using R for High-Performance Computing". In: Orange County R Users Group. (invited talk, slides/video). Aug. 2019.

[13] "Big Problems for Small Networks: Statistical Analysis of Small Networks and Team Performance". In: UCI Social Network Research Group. (invited talk, slides). Apr. 2019.

[14] "Big Problems for Small Networks: Statistical Analysis of Small Networks and Team Performance". In: SONIC Speaker. (invited talk, slides/video). Mar. 2019.

[15] "Estadística de Redes y Econometría Espacial (con R)". In: IMFD Summer School. (invited talk, slides/video). Dec. 2018.

Other Talks

[1] "Introduction to Exponential-Family Random Graph Models". In: 1st Chilean Summer School about Social Network Research. (workshop, slides). Jan. 2024.

[2] "Statistical Inference in Network Science: A short course". In: Escuela de Verano de Sistemas Complejos. (workshop, slides). Jan. 2024.

[3] "Mechanistic Machine Learning". In: MInD2.0 Visit Harvard. (talk, slides). May 2023.

[4] "A Crash course on git". In: Happy Scientist Seminar. (workshop, slides/video). Mar. 2021.

[5] "HPC with Slurm, R, and the slurmR R package". In: Happy Scientist Seminar. (workshop, slides/video). Feb. 2021.

[6] "Essays on Bioinformatics and Social Network Analysis: Statistical and Computational Methods for Complex Systems". In: Doctoral Defense. (talk, slides). June 2020.

[7] "Essays on Bioinformatics and Social Network Analysis Statistical and Computational Methods for Complex Systems". In: Biostats Seminars. (talk, slides/video). Jan. 2020.

[8] "slurmR workshop". In: Happy Scientist Semminar Series. (workshop, slides). Jan. 2020.

[9] "Happy Scientist Seminar: Research Pipelines". In: Happy Scientist Seminar. (talk, slides). Oct. 2019.

[10] "What drives social networks? A gentle introduction to exponential random graph models (with a focus on small networks)". In: East LA R User Group. (talk, slides). June 2019.

[11] "Overview of Social Network Models". In: (talk, slides). Dec. 2018.

[12] "A brief introduction to using R for high-performance computing". In: East LA R User Group. (talk, slides). Nov. 2018.

[13] "R Bootcamp for Scientific Computing 2018". In: R Bootcamp for Scientific Computing. (workshop, slides). Aug. 2018.

[14] "Intro to R". In: USC's HPCC workshop. (workshop, slides). July 2018.

[15] "Introduction to R (for HPC users)". In: USC's HPCC workshop. (workshop, slides). July 2018.

[16] "Reproducible Research". In: Health Behavior Research Students talk. (talk, slides). Sept. 2016.

Teaching

(PHS 7045) Advanced Programming with R and HPC   Fall 2024
The University of Utah, USA
Co-instructor, PHS Ph.D. Program

Statistical Inference in Network Science   Summer 2024
Universidad del Desarrollo, Chile
Instructor, Social Complexity Summer School

Exponential-Family Random Graph Models   Summer 2024
Chilean Society for Social Network Analysis (ChiSocNet), Chile
Co-Instructor, 1st Chilean Summer School about Social Network Research

(PHS 7045) Advanced Programming with R and HPC   Fall 2022
The University of Utah, USA
Co-instructor, PHS Ph.D. Program

(PM 566) Introduction to Health Data Science   Fall 2021
University of Southern California, USA
Instructor, Masters of Science in Public Health Data Science

(PM 566) Introduction to Health Data Science Fall 2020

University of Southern California, USA

Co-instructor, Masters of Science in Public Health Data Science

Statistical Computing with Stata First semester 2012

Universidad Adolfo Ibáñez, Chile

Instructor, Masters in Economics and Public Policy

Introduction to Economics First semester 2012

Universidad Adolfo Ibáñez, Chile

Co-instructor, B.A. in Business Administration

Microeconomics Second semester 2012

Universidad Adolfo Ibáñez, Chile

Co-instructor, B.A. in Business Administration

Introduction to Economics First semester 2011

Universidad Adolfo Ibáñez, Chile

Co-instructor, B.A. in Business Administration

Mentoring/Advising

Mentor, RA (2024–Present)

Sima Najafzadehkhoei, University of Utah, Population Health Sciences, Ph.D. in Biostatistics. Computational Epidemiology, Agent-Based Models and ML.

Mentor, RA (2024–Present)

Anibal Olivera, Universidad del Desarrollo, Chile, Ph.D. in Social Complexity. Network Science and R package development.

Mentor, RA (2024–Present)

Milo Banks, Rowland Hall High School, High School Student. Software development and computational epidemiology.

Mentor, RA (2023–Present)

Hyrum Thomas Diesen, University of Utah, School of Biological Sciences, Molecular Cellular Evolutionary Biology Ph.D. program.

Ph.D. Dissertation Committee Member (2023–Present),

Eric Anto, University of Utah, Population Health Sciences, Biostatistics Ph.D. program.

Qualifying Exam chair and Member, Ph.D. Dissertation Committee Member (2022–2024),

Katherine Lawson Michod, University of Utah, Population Health Sciences, Clinical and Translational Epi-

demiology Ph.D. program.

Mentor, RA (Summer 2023),
Porter Bischoff, University of Utah + Utah Valley University, Summer Program for Undergraduate Research (SPUR), Network Visualization using R.

Supervisor, RA, and M.Sc. Dissertation Committee Member (2022–Present)
Derek Meyer, University of Utah, Population Health Science, Agent-Based Models for Epidemics.

Mentor, (2022–Present),
Jacqueline M. Kent-Marvik, University of Utah, Nursing School, Ph.D. Health Sciences, Network Science and Social Network Analysis.

Mentor, (2022),
Luis Lopez, NIH, Postbac program, Exponential-Family Random Graph Models.

Grants

5P01CA196569-08 (PIs: Gauderman, Siegmund)   07-01-2016 – 08-31-2027
National Cancer Institute (NCI)   0.6 calendar months/year
Statistical Methods for Integrative Genomics in Cancer
This program aims to develop novel statistical methods for integrating multi-omic data to address cancer etiology, prognosis, and treatment. The program has three synergetic projects, one using evolutionary models for annotating genes and their products (of which I am a Co-I).
Role: Co-Investigator
Total Award Amount (including indirect costs): $ 12,894,663.

HT94252310221 (PI: Kennedy)   07-01-2023 – 30-06-2026
U.S. Army Medical Research and Development Command (DoD)   1.8 calendar months/year
Phenotypes of Epilepsy Etiology and Drug Resistance (PEER)
The project aims to investigate the causes and workings of epilepsy by utilizing new data science methods. The grant will be utilized to analyze patterns in three ongoing and established studies, generating "risk scores" for epilepsy after a head injury, specifically among military personnel..
Role: Co-Investigator
Total Award Amount (including indirect costs): $ 846,484.

5U01CK000675-01 (PI: Keegan)   09-30-2022 – 09-29-2025
National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)   0.3 calendar months/year
TRANSMIT: Training Research Acumen in Students Modeling Infectious Threats
A fellowship program oriented to train students in using mathematical modeling and computational methods to study infectious diseases.
Role: Co-Investigator
Total Award Amount (including indirect costs): $ 891,356.

Submitted but not funded

1R01HG012878-01 (PI: Vega Yon)   12-01-2022 – 11-30-2027
National Human Genome Research Institute (NHGRI)

Improving our Predictive Capability of Gene Functions by Leveraging Biological Insights with Advanced Statistical Computing

Using discrete exponential-family models, build a mechanistic gene function evolution model incorporating complex features involving biological processes such as neofunctionalization.

Role: PI

Total Award Amount: Not funded

1R01HG012878-01A1 (PI: Vega Yon)   12-01-2023 – 11-30-2028
National Human Genome Research Institute (NHGRI)

Building a Novel Prediction Framework Leveraging Biological Insights to Boost Machine Learning Algorithms for Annotating Gene Function

This project extends my model of function evolution using discrete exponential-family models. It embeds it into a mechanistic machine learning framework–mixing theory and data-driven models to improve gene function prediction.

Role: PI

Total Award Amount: Not funded

Honors and Services to the Profession

Manuscript Review (Ad Hoc)
Journal of the American Statistical Association
American Sociological Review
The Official Journal of The Society for Computational Economics
The R Journal
The Stata Journal
Social Networks
Journal of Mathematical Sociology
Computer Methods and Programs in Biomedicine Update
Journal of Open Source Software
Bioinformatics

Abstract Review
International Conference on Computational Social Science (2019–2021)
SUNBELT Conference (2016)

Panelist/Discussant

"Learning tips for your PhD from other researchers in the community".

Early and Middle Career Researchers (EMCRs) on Social Networks workshops, October 2023.

"JASA A&CS Special Invited Session: A Tale of Two Datasets – Representativeness and Generalisability of Inference for Samples of Networks."
Joint Statistical Meetings (JSM), August 2023.

"Social Network Diffusion of Individual Behavior Change Interventions Virtual Workshop."
National Institute on Aging Division of Behavioral and Social Research (NIA BSR), March 2022.

Book Review

"Microeconometrics and Matlab: An Introduction", by Adams, Clarke and Quinn, Oxford University Press, 2015.

"Mastering Gephi Network Visualization", by Ken Cherven, Packt Publishing, 2015.

"Network Graph Analysis and Visualization with Gephi", by Ken Cherven, Packt Publishing, 2013.

Misc

Core member of the "University of Utah's Center for Data Science" (2023–Present)

Lead of "Network Science and Social Network Analysis at the U (NetSNAU)" research group (2022–Present)

Member of "Center for Applied Network Analysis (CANA) at USC" research group (2016–Present)

Co-organizer of the USC Networks Meeting (2020, 2021)

Founder of the (first) R Users Group in Chile (2013)

Co-organizer of the East LA R User Group (LAERUG).

Software

R, C++, Python, LaTeX, SQL, XML, regex, Stata+Mata, VBA, Gephi, Pajek, Mathematica, MS Suit, Git, Unix, Docker, Visual Studio Code

last update: February 11, 2026

https://ggvy.cl